Claims

1.   An intelligent skip method for a video reproducing apparatus, characterized in that if an intelligent skip is requested by a user, forward or reverse intelligent skip is performed by GOS unit, based on a current reproduction location of a media and a shot segmentation information or GOS information constituted with one long shot or a sequence of shot shots.

2.   An intelligent skip method for a video reproducing apparatus, comprising the steps of:

calculating a GOS, to which a reproduction location of a current media belongs, according to a user's intelligent skip request, based on a current reproduction location of a media and a shot segmentation information or GOS information constituted with one long shot or a sequence of shot shots;

determining whether the user's intelligent skip request is forward or reverse, based on the calculated GOS (GOScur) to which the reproduction location of the current media belongs;

if the user's intelligent skip request is the forward skip request, setting a start time of a next GOS (GOScur+1) as a start time of a normal reproduction restart, and if the user's intelligent skip request is the reverse skip request, setting a start location of a GOS (GOScur), to which a reproduction location of a current media belongs, as a start time of a normal reproduction restart or setting   a GOS (GOScur-1), which is before one from the GOS to which the reproduction location of the current media belongs, as a normal reproduction restart location; and

performing a normal reproduction from the set normal reproduction restart location.

3.   The intelligent skip method according to claim 2, wherein in the step of setting the normal reproduction restart location to the start location of the GOS (GOScur) or the start location of the GOS (GOScur-1) with respect to the user's reverse skip request, the normal reproduction restart location is set by selectively receiving a command through different user input means from a user or through different user operations by means of one user input means.

4.   The intelligent skip method according to claim 2, wherein in the step of setting the normal reproduction restart location to the start location of the GOS (GOScur) or the start location of the GOS (GOScur-1) with respect to the user's reverse skip request,

if an offset between the start locations of the reproduction location of the media and the GOS to which the reproduction location of the media belongs is equal to or less than a predetermined level, a start location of the GOS (GOScur-1) which is before one from the GOS (GOScur) is set as the start time of the reproduction restart, and if the offset is more than the predetermined level, the start location of the GOS (GOScur) is set as the start time of the reproduction restart.

5.   An intelligent skip method for a video reproduction apparatus, comprising the steps of:

based on a current reproduction location of a media and a shot segmentation information or a GOS information considering sequential shots having an identical length characteristic as one GOS, calculating a GOS to which a reproduction location of a current media according to a user's intelligent skip request and determining whether a type of the GOS is a GOS defined as one long shot or a sequence of short shots;

based on the GOS (GOScur) to which the calculated reproduction location of the current media belongs, determining whether the user's intelligent skip request is forward or reverse;

if the user's intelligent skip request is the forward skip request, setting a start location of a GOS, which is nearest from the current location among following GOSs (GOSr:r>cur) each being constituted with one long shot, as a start time of a normal reproduction restart;

if the user's intelligent skip request is the reverse skip request and the GOS (GOScur) is a GOS constituted with one long shot, setting the start location of the GOS, to which the reproduction location of the current media belongs, as a start time of a normal reproduction restart time, or setting a start location of a GOS, which is nearest from the current location among GOSs (GOSr:r<cur) each being constituted with one long shot before the reproduction location of the current media, as a start time of a normal reproduction restart;

if the user's intelligent skip request is the reverse skip request and the GOS (GOScur) to which the reproduction location of the current media belongs is a GOS constituted with a sequence of short shots, setting a start location of a GOS, which is nearest from the current location among the GOSs (GOSr:r<cur) each being constituted with one long shot before the reproduction location of the current media, as a start time of a normal reproduction restart; and

performing a normal reproduction from the set normal reproduction restart location.

6.   The   intelligent   skip method according to claim 5, wherein in the step of setting the start location of the GOS (GOScur) as the normal start location of the normal reproduction restart or setting the start location of the GOS, which is nearest from the current location among the GOSs each being constituted with one long shot before the reproduction location of the current media, as the start location of the normal reproduction restart with respect to the user's reverse skip request, the normal reproduction restart location is set by selectively receiving a command through different user input means from a user or through different user operations by means of one user input means.

7.   The intelligent skip method according to claim 5, wherein in the step of setting the normal reproduction restart location to the start location of the GOS (GOScur) or the start time of the GOS, which is nearest from the current location among the GOSs each being constituted with one long shot before the reproduction location of the current media with respect to the user's reverse skip request, if an offset between the start locations of the reproduction location of the media and the GOS to which the reproduction location of the media belongs is equal to or less than a predetermined level, the start location of the GOS, which is nearest from the current location among the GOSs each being constituted with one long shot, is set as the start time of the reproduction restart, and if the offset is more than the predetermined level, the start location of the GOS (GOScur) is set as the start time of the reproduction restart.

8.   The intelligent skip method according to claim 2 or 5, wherein the GOS is defined as a sequence of shots having the identical length characteristic, a shot having a length more than a specific threshold value is considered as a long shot, a shot having a length less than the specific threshold value is considered as a short shot, sequential short shots are configured to belong to one GOS, and the long shots constitutes one independent GOS.

9.   The intelligent skip method according to claim 2 or 5, wherein the GOS information is calculated in real time according to the user's intelligent skip request by using a section information of shots extracted from inputted multimedia signals.

10.   The intelligent skip method according to claim 2 or 5, wherein the GOS information is extracted before the user's intelligent skip request and indexed by using a section information of shots extracted from inputted multimedia signals.

17

11. The intelligent skip method according to claim 2 or 5, wherein when a location moves from the current reproduction location to the start time of the set normal reproduction restart, the reproduction of the media is paused, the reproduction location of the media is instantly replaced with the start time of the reproduction restart, and the normal reproduction is restarted from the corresponding location.

12. The intelligent skip method according to claim 2 or 5, wherein when a location moves from the current reproduction location to the start time of the set normal reproduction restart, the reproduction of the media is paused, the section from the current reproduction location of the media to the start time of the normal reproduction restart is reproduced according to the forward or reverse skip requests by using fast forward (FF) or fast rewind (FR) function, and the normal reproduction is restarted from the corresponding location if a location arrives at the normal reproduction location of the media.

13. A video reproducing apparatus comprising:
a user interface means configured to receive a user command for an intelligent skip in order to perform a searching and browsing of digital video data;
a control means for controlling a forward or reverse intelligent skip using a shot segmentation information and a GOS information with respect to corresponding video stream according to the user command inputted through the user interface means;
a media storage means for providing a video stream with respect to the request of the control means; and
a display means for reproducing the video stream in which the intelligent skip is performed by the control means.

14. The video reproducing apparatus according to claim 13, wherein the GOS is defined as a sequence of shots having the identical length characteristic, the shot is classified into a short shot and a long shot in a detection of the GOS, a shot having a length more than a specific threshold value is considered as a long shot, a shot having a length less than the specific threshold value is considered as a short shot, sequential short shots are configured to belong to one GOS, and the long shots constitutes one independent GOS.

15. The video reproducing apparatus according to claim 13, further comprising an index storage means for providing a shot index information and GOS information of corresponding video stream with respect to the request of the control means.

18

16. The video reproducing apparatus according to claim 15, wherein the shot index information and GOS information are generated from audio/video stream or together with the audio/video stream.